

MARS 2008 Lessons Learned

I. Process/Procedures

A. IRM Study Schedule (2007- Item #1)

Concern: As recommended in the 2007 Lessons Learned, a project schedule was developed for the IRM Study process. This may have helped in completing the IRM study within the required deadline in 2008. However, the schedule was not highly utilized or referenced throughout the year.

Action Plan: It is recommended that the schedule is made more visible and is referred to on a regular basis at ICS meetings to ensure the study process is on target. The schedule should be simple, concise and limited to approximately one page. It should include inputs required from other committees.

B. Content of ICS Meeting Minutes (2007- Item #4)

Concern: The 2007 Lessons Learned requested that ICS participants are vigilant and responsive in providing comments on the ICS meeting minutes. However, in 2008, the minutes were not provided in a timely manner prior to the meetings. This made it difficult to complete a proper review or to discuss them during the next ICS meeting

Action Plan: It is recommended that an initial draft of the Meeting Minutes are issued 2 weeks prior to the next ICS meeting. Participants are to provide comments and comments are to be incorporated into a final draft to be presented at the next ICS meeting.

C. NYISO Staff Resources (2007- Item #5)

Concern: The 2007 Lessons Learned indicated that the ICS was concerned that the NYISO was not adequately staffed to perform the necessary IRM/LCR related work.

Implementation: Two additional employees have been hired in NYISO's Resource Adequacy Group. Also existing NYISO resources are utilized to perform IRM-LCR work as needed.

D. Procedure for Determining External Import Rights (2007- Item #10)

Concern: The 2007 Lessons Learned recommended that the following are determined: 1) Emergency assistance from each control area, 2) Import Rights and 3) Loop Flow Circulation concerns.

Implementation: A presentation on how import rights are determined was provided to the Operating Committee. The NYISO is in the process of preparing a presentation on how external ICAP is determined. NYISO is also in the process of writing a paper regarding the loop flow issue.

E. Sensitivity Methodology

Concern: The ICS is concerned that the current method used for the sensitivity cases may not accurately illustrate their true impact. Also the need for completing a sensitivity case and how the results are going to be utilized are not well defined.

Action Plan: NYISO will document each requested sensitivity case to include the following information:

- a) the type of sensitivity being evaluated (load, environmental, external world, etc.)
- b) the purpose for performing the case (e.g., how it will help the EC set the IRM),
- c) a description of how the case should to be performed.

Further, the ICS should choose one of the following three methods for each sensitivity:

- a) The existing method where capacity is added/removed in all zones to achieve 0.1 LOLE.
- b) Only add/remove capacity in specified zones.
- c) Create a new LCR-IRM curve for a given sensitivity. This third method should be used judiciously given the time and resources that it consumes.

F. Interface Limits Procedures

Concern: NYISO has been asked to prepare a written procedure on how the Interface Limits are determined.

Implementation: NYISO is evaluating this issue.

G. Policy 5 Revisions

Concern: There may have been changes in the process and policy that should be reflected in Policy 5.

Action Plan: Review Policy 5 in late spring or early summer 2009 to determine the updates that are required. The capacity deliverability issue is one item that should be considered during the review process.

II. Study Work

A. Upstate-Downstate (UD) Superzone Study (2007- Item #2)

Concern: The 2007 Lessons Learned recommended that a UD Study be performed over the next 3 years utilizing recently completed IRM databases.

Implementation: This was completed for the 2008 IRM Study and will be completed for the 2009 Study, as well.

B. NYISO-PJM Transmission Study

Concern: There is a concern that the activities relating to the transmission system in one area may impact the systems in adjacent areas.

Implementation: NYISO and PJM representatives are working on an Interregional Transmission Study with the Interregional Planning Stakeholder Advisory Committee (IPSAC).

C. Forward Capacity Market (2007- Item #17)

Concern: The 2007 Lessons Learned recommended that a longer term IRM/LCR study be considered.

Implementation: A scope of work developed by ICS was approved by the NYSRC. NYISO and NYSRC are in discussion regarding the timeframe for completing a study in support of a forward capacity market.

III. Model Assumptions/Inputs

A. Third Party Review of MARS Database/ Assumptions (2007- Item #7)

Concern: The 2007 Lessons Learned recommended that GE review the completeness of the database and assumptions prior to development of the base case runs.

Recommendation: ICS should consider adding the need for a third party review to Policy 5-2, Section 3.5.7.

B. Contracts Impact on LOLE

Concern: It has been determined that modifying the modeling of the external contracts impacts the shape of the IRM-LCR curve.

Action Plan: It is recommended that a regression analysis of the curve resulting from removing the external contracts be completed. A white paper should be written to describe the results.

C. Special Case Resource (SCR) Modeling

Concern: The NYISO and the ICS have indicated that SCRs could be more accurately modeled. SCRs are not required to reduce the load usage by a set incremental amount. They are only required to reduce their load to a set level. For example, if an SCR's peak load is 100MW and it has agreed to reduce its load to 90MW during an emergency, it is not required to reduce its load an additional 10MW if it is not operating at 100MW when an emergency occurs. If its load is at 95MW then it only needs to reduce its load by 5MW. As a result, the system may not be receiving as high of a benefit from the SCR as it expected if the EOP is required during an off load peak period.

Action Plan: ICS should review this item.

D. Load Forecast Uncertainty (LFU) Methodology

Concern: In reviewing the data for the 2009 IRM Study, it was determined that different methodologies were being used among the parties with regards to the weather normalization process and the segmentation of the load distribution curve. Although progress has been made, this is not completely resolved.

Action Plan: It is recommended that the LFTF review the methodology differences and provide a recommendation for use in future studies.

E. Interim Load Forecast

Concern: NYISO is concerned about the value of completing the study based on an interim load forecast.

Action Plan: NYISO recommended that the ICS consider looking at the additional work involved in performing this extra step versus the value being added to the process. ICS feels that it is important that the latest summer peak data is included in the analysis and requests that the Interim Load Forecast continues to be used. NYISO has requested an opportunity to quantify their concerns and why they feel this does not add value to the

process.

F. Inclusion of New Projects

Concern: NYISO is concerned that the current criteria used for determining which new projects in the interconnection queue are included in the study may not accurately identify active projects. For example, it was found that two large wind farms which will be in-service either by the end of 2008 or 1st Quarter of 2009 were not included in the study but one wind project whose construction was delayed and will not be in-service until 4th Quarter 2009 was included.

Action Plan: It is recommended that the criteria used for including projects in the study are reviewed and perhaps new metrics are utilized. NYISO is in the process of implementing a new project tracking process which requires all projects which have completed a Facilities Study to submit a bi-monthly status report. Information obtained in these reports should be utilized to aid in determining which projects are included in the report.

G. Notification of Retirements

Concern: NYISO is concerned that there is currently no requirement that NYISO is directly informed about planned plant retirements. Therefore, these may not be accurately reflected in the studies.

Action Plan: It is recommended that the PSC provide notification of retirements to NYISO's VP of System Resource Planning.

H. EFORd Calculations

Concern: It has been noted that different methodologies for calculating EFORds are being utilized by NYISO depending on its application. A white paper has been written to explain these differences. However, these differences cause confusion among the Market Participants.

Action Plan: It is recommended that the various EFORd calculation methodologies are reviewed in order to determine if the values used in IRM study report can be modified to match those being used in the ICAP Market. It is suggested that a different term is used to differentiate between the 5 year average calculations used for IRM versus the 18 month calculations used in the ICAP market.

I. EFORd Trend Analysis

Concern: It has been noted that there has been an increase in EFORd data. It is unknown if this is due to more accurate information or if this is an

true reflection of the current trend.

Action Plan: ICS is putting together a scope of analysis based on recommendation #7 included in "Reliability Compliance Review of 2004 NERC-GADS Outage Data Misreporting Event" approved by Executive Committee on 12/5/08. This paper recommends a joint ICS/NYISO analysis of EFORd trends.

J. Generator Data Accuracy

Concern: NERC's class average data is used in the model for generators whose data entered into GADS (Generator Availability Data Set) is found to be in error. However, some generator's GADS data may be under investigation during the study process and it is not clear if their reported GADS data or NERC's class average data should be used in the study.

Action Plan: It is recommended that NYISO's Market Monitoring notifies NYISO's Planning Department when inaccurate data is suspected. This information should be brought to the ICS in order to determine what data should be used in the study.

K. Sequence of Model Changes

Concern: The model for the new year's study is built by systemically making changes in steps and reviewing the impact the change has on the results. It has been found that the sequence in which the changes are made influence the level of impact it has on the results.

Action Plan: It is recommended that the ICS establishes a procedure which outlines the sequence to be followed for model changes. This would provide consistencies between model years and avoid issues arising during the study process.

L. Environmental / CAIR Impact on IRM

Concern: There is general agreement that since CAIR is a seasonal consideration it will impact price but not necessarily IRM.

Action Plan: NYISO will write a brief white paper to further document the basis for this conclusion.

IV. Reporting / Communications

A. Interregional Planning Initiatives (2007- Item #16)

Concern: The 2007 Lessons Learned recommended that progress at PJM Planning and Interregional IPSAC meetings are tracked.

Action Plan: It is recommended that ICS assign someone to provide updates to the ICS and explore options for refining NY/PJM transmission model (particularly important with Neptune and VFT).

V. Closed Out Items

A. New York/New England (NY/NE) Tie Benefits Study (2007- Item #9)

Concern: The 2007 Lessons Learned recommended that ICS work more closely with the ISO-NE to ensure that the same assumptions and databases are used in conducting the study.

Implementation: It was determined that very different methodologies and philosophies are used between NYISO and NE ISO making it difficult to resolve differences. ICS had recommended that an independent study be completed by GE however, funding for the study could not be obtained. Therefore, completing the study will not be pursued.

B. NYISO Internal Interface Transfers Limits (2007- Item #6)

Concern: The 2007 Lessons Learned recommended that NYISO establish June 1st as the target completion date for the NYCA Transmission Topology Study.

Implementation: The delivery date of these limits has improved to the extent that it is no longer an issue.

C. Study Completeness/ Sensitivity Studies (2007- Item #8)

Concern: The 2007 Lessons Learned recommended that the all sensitivity cases are to be completed in advance of EC review and decision.

Implementation: For the 2008 IRM Study, a list of the sensitivity cases was submitted for review prior to the cases being completed.

D. Number of Iterations (2007- Item #3)

Concern: The 2007 Lessons Learned recommended that 5000 iterations of the program are run to determine the stability of the LOLE and the

Standard Error.

Implementation: One sensitivity case was run with 5000 iterations. The resulting LOLE and Standard Error was noted in the report. A similar sensitivity case will be run for each IRM Study going forward.

E. Document Modeling Enhancements (2007- Item #12)

Concern: The 2007 Lessons Learned recommends that modeling changes/enhancements are captured and documented within Appendix A of the IRM Report.

Implementation: Modeling changes are discussed at ICS meetings. Those that impact the IRM results are discussed within the IRM report.

F. Resource Adequacy Workshop (2007- Item #13)

Concern: The 2007 Lessons Learned recommended that a workshop is held to gather concerns and questions from participants.

Implementation: The last workshop held was in June 2007. It is recommended that workshops are held in the future on an as needed basis.

G. Simplify Presentation (2007- Item #14)

Concern: The 2007 Lessons Learned recommended that a simplified methodology section is written for a non-technical, senior management audience.

Implementation: This has been included as the Executive Summary in the report.